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AUTHOR Carter, Frances J.; Norris, Raymond C.
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ABSTRACT

The utility of a theoretical model of quality of life for graduate students was investigated. Variables that relate to the person-environment fit of graduate students were also examined. The data were collected via a biographical data form and seven psychometric instruments. The 142 subjects from two graduate departments at Peabody College were a heterogeneous group of males and females, ranging in age from 22 to 58 years. Students were administered the Flanagan Quality of Life Scale, portions of the Oregon Quality of Life Questionnaire, the Hassles Scale, the Uplifts Scale, and the Mentor Scale. Results indicate that graduate students assess their quality of life through an internalized weighting of positive affect against hassles (negative experiences). Level of mentoring experienced was the best predictor of both overall quality of life and positive affect, while sex of subject was the best predictor of hassles. The results suggest that manipulation of the mentoring relationship may be helpful in regard to increasing positive aspects of life. (Author/SW)

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Quality of Life of Graduate Students: Components and Predictors

Frances J. Carter

Walter Reed Army Medical Center, Washington, DC

Raymond C. Norris

Peabody College/Vanderbilt University

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Running head: QUALITY OF LIFE OF GRADUATE STUDENTS

Abstract

A model of quality of life for graduate students was developed and predictors of the constructs used in the model were identified. The data were collected via a biographical data form and seven psychometric instruments. The 142 subjects were a heterogeneous group of males and females, ranging in age from 22 to 58, from two graduate departments at Peabody College. Results indicated that graduate students assess their quality of life through an internalized weighting of positive affect against hassles (negative experiences). Level of mentoring experienced was the best predictor of both overall quality of life and positive affect, while sex of subject was the best predictor of hassles.

Quality of Life of Graduate Students:

Components and Predictors

A recent review of the quality of life literature indicated that the subjective quality of life of populations has been promoted by a number of writers as the criterion for setting priorities for meeting unmet needs (Murrell, Schulte, Hutchins & Brockway, 1983). Quality of life is likewise promoted here as the criterion for addressing the needs and development of graduate students. Specifically, the intention of the present study was to gather data regarding how students derive their quality of life assessments and what variables relate to their overall quality of life and to its components. Such information could enable educators to more judiciously plan their interventions.

Quality of life was defined within a transactional framework as the degree of fit between the needs of the individual and the opportunities within the environment and between the abilities of the individual and the demands from the environment (Brodsky, Bigelow, Stewart, Olson, Howard, & Smith, 1979). Such a model requires the inclusion of both person variables (affective states) and environmental variables (events). It was considered necessary to assess both positive and negative affective and situational experience since Gurin, Veroff, and Field (1960) have demonstrated that negative affect and general happiness are not reciprocal and

that the absence of stressors does not insure the presence of positive affect. Positive and negative affect have been found to be essentially uncorrelated (Bradburn, 1969). However, uplifts (positive daily experiences) and hassles (negative daily experiences) have a positive correlation in a general population sample (Kanner, Coyne, Schaefer, & Lazarus, 1983), explained by individual differences in level of interaction with the environment.

The preceding literature review lead to the speculation that quality of life reflected some internal synthesis of positive and negative emotions and events. A primary purpose of this study was to investigate the utility of this four-fold theoretical model as applied to graduate students. The following null hypothesis was derived:

H_o: There are no relationships among Quality of Life, Positive Affect, Uplifts, Negative Affect, and Hassles.

It was expected that both Positive Affect and Uplifts would be positively related to Quality of Life; that both Negative Affect and Hassles would be negatively related to Quality of Life; and that each of the four variables would make a unique contribution to the variance in quality of life explained. Hassles and Uplifts were expected to have a significantly positive relationship, but Positive and Negative Affect were expected to emerge as relatively independent factors (i.e., uncorrelated with one another).

The second broad focus of the study was the investigation of variables which relate to the person-environment fit of graduate students. A review of the literature indicated that stress measures (i.e., Negative Affect and Hassles) could be expected to vary by sex, parental status, and level of mentoring experienced. Quality of life and adjustment measures (i.e., Positive Affect and Uplifts) were expected to vary only by level of mentoring. Each of the three independent variables is discussed in turn as it relates to the person-environment fit constructs.

Sex of Subject

Several nationally representative studies have demonstrated that men and women are highly similar in regard to their satisfaction with life as a whole and their self-related positive affect (Campbell, 1981; Campbell, Converse, & Rogers, 1976; Flanagan, 1979). However, women are more likely to report experiences of negative affect (Campbell, 1981) and they perceive themselves as significantly more stressed (Campbell, Converse, & Rogers, 1976). Female graduate students more often cite emotional strain as a potential reason for dropping out of school, while males more often cite academic inability (Creager, 1971; Holmstrom & Holmstrom, 1974). In longitudinal studies, even women rated as more able than male peers had higher dropout rates (Patterson & Sells, 1973).

Parental Status of Subject

Married people with and without children are similar in reported

happiness (Campbell, 1981). However, both men and women with children under six report significantly higher levels of perceived strain (Campbell, Converse, & Rogers, 1976). Young parenthood appears expecially stressful for women, who more often endorsed the most serious items such as fantasies of escaping the marital role or fears of a nervous breakdown.

These findings are consistent with indications that women suffer disproportionately from role overload (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). Among professional couples, wives still have primary responsibility for household labor and childcare (Bryson, Bryson, Licht, & Licht, 1976); Herman & Gyllstrom, 1979). Only 1 in 45 such couples consider child care a shared responsibility (Bryson et al., 1976) and in times of emergency, it is the female who accommodates her schedule (St. John-Parsons, 1978).

Mentoring

Consistent with the relationship of Mentor and Odysseus in Greek mythology, the mentor was defined as "an older and more experienced adult who aids, through active participation, in one or more of a younger person's significant life endeavors" (Burton, 1977; Levinson, 1978; Phillips, 1979). A review of the mentoring literature revealed 11 functional roles through which the mentor participates in the life of the protege: transmitter of values, host and guide to a new occupational and social world, advocate of a career and lifestyle

exemplar of virtues and achievements, role model of professional behavior, teacher/trainer/coach, political advisor, intellectual stimulator, evaluator of products and progress, sponsor/patron/benefactor, and emotional supporter/counselor/defender (Boston, 1976; Burton, 1977; Cameron, 1978; Kanter, 1977; Levinson, 1978; McNutt, 1979; Moore & Sangria, 1979, Phillips, 1979; Schmidt & Wolfe, 1980; Shapiro, Haseltine, & Rowe, 1978; Wilson, Gaff, Diensh, Wood, & Bavry, 1975). In the broadest sense, the mentor aids the young man or woman in attaining full adulthood and actualizing potential (Burton, 1977; Levinson, 1978).

The typical mentor for a professional is a faculty member with whom he or she worked closely while in college or graduate school (Shapiro, et al., 1978). Feldman (1974) contrasted graduate students who had an apprentice or collegial relationship with a professor to their peers who had student-teacher, employer-employee, or no-contract relationship with professors. More of the students with apprentice or collegial relationships had published articles and fewer felt that inability would force them to drop out. Satisfaction with college is associated with the frequency of informal, nonclassroom contact between students and faculty members (Pascarella, 1980). Identification with highly respected professors as role models correlates with an absence of stress symptoms in graduate students (Baird, 1966).

It has been proposed that women are more in need of mentors in order to counterattack such career inhibitors as fear of failure and

role conflict (Kanter, 1977; Schmidt & Wolfe, 1980). In the Feldman (1974) study there were significant differences between the two sexes in publication rates and academic insecurity, respectively, among students with student, employer, and no contact relationships with professors, but not among students with apprentice or collegial relationships with professors. Holmstrom and Holmstrom (1974) found that items regarding social relations entered the prediction equation for women but not for men.

The preceding literature review resulted in the following null hypothesis:

H_o: Average scores for Quality of Life, Positive Affect, Uplifts, Negative Affect, and Hassles will be independent of sex, parental status, and level of mentoring.

It was expected that higher stress (e.g., higher scores on Negative Affect and Hassles) would be associated with being female, being a parent, and reporting low mentoring, respectively. Female parents were expected to indicate greater stress than male parents, and women with low mentoring were expected to indicate greater stress than men with lower mentoring. It was expected that subjects with high mentoring would have higher scores on Quality of Life, Positive Affect, and Uplifts than subjects with low mentoring. There were no predictions about differences between men and women or between parents and non-parents in regard to scores on these three measures.

Several authors have suggested that women are less likely than men to have mentors because the predominantly male faculty members choose proteges who are similar to themselves (Holahan, 1979; Kanter, 1979); harbor antifemale prejudice (Brodsky, 1974); or fear that their wives or colleagues will misinterpret the relationship (Epstein, 1970). In a study of doctoral students in five disciplines, Feldman (1974) demonstrated that males are much more likely than females to have colleague or apprentice relationships with professors, while females are more likely to have student or no-contact relationships.

Thus, the third and final null hypothesis was that sex, parental status, and level of mentoring occur independently in graduate students. It was expected that lower levels of mentoring would be more common among women, whereas higher levels of mentoring would be more common among men; and that this difference would be noted between male and female parents, in particular.

Method

Subjects

The data were collected through a mailed survey which included a biographical data form and several psychometric scales. The respondents were a heterogeneous group of 57 males and 85 females, ranging in age from 22 to 58 (M = 31.95, SD = 6.89), from the graduate departments of Psychology and Human Development Counseling

and Coordination at Peabody College/Vanderbilt University. Forty-three percent were married; 37% were single; 14% were divorced; and 5% were separated. Forty-six subjects had children residing with them.

Measures

Quality of Life. The Flanagan Quality of Life Scale is composed of 15 dimensions developed empirically through the use of the critical incident technique (Flanagan, 1954; Flanagan & Russ-Eft, 1975). Critical incidents considered to be contributory to the quality of life were collected from a diverse national sample of 2,834 persons. The set of categories thus derived are considered to be comprehensive (Flanagan, 1979; Flanagan & Russ-Eft, 1975) and to reflect a very high level of concensual validity. Construct validity is suggested by its similarity to several other rationally derived quality of life scales (Brodsky, et al., 1979; Campbell, 1981; Organization for Economic Cooperation and Development, 1973).

Respondents were asked to give each of the 15 dimensions an importance rating and a satisfaction rating on two Likert scales, each ranging from 1 to 5 (i.e., not at all to very well). Each satisfaction rating was weighted by the corresponding importance mating and a summary score was obtained for these weighted dimensions.

Affect. Positive and negative affect were measured with the Distress Scale and the Well-Being Scale, two of the several scales

which comprise the Oregon Quality of Life Questionnaire (OQLQ). The Distress Scale consists of 12 items involving feelings of anxiety, alienation, fear, depression, and hostility. The Well-Being Scale consists of 10 items involving feelings of pleasure, optimism, calmness, and contentment. Items for the two scales are alternated within a single format. Subjects are asked to indicate how often they have had each experience in the past month, using a Likert scale with values ranging from 1 to 4 (i.e., none of the time, several times, often, and all the time). The scoring procedure is a simple summation of item response values (Brodsky, et al., 1979).

Each scale has a Cronbach's alpha value of .88, indicating strong internal consistency (Bigelow, Brodsky, Stewart, & Olson, 1981). Discriminant value has been established by comparing scores for psychiatric outpatients at intake with their scores following therapy. Obtained differences in the direction of improvement were significant at the .005 level (Brodsky, et al., 1979).

Daily Life Experience. The Hassles Scale is a 117-item measure of the specific negative experiences, or "microstressors" (McLean, 1976) of daily life. The Uplifts Scale is a companion measure of 135 items related to daily positive experiences. Items for both scales were generated from the areas of work, health, family, friends, the environment, practical consideration, and chance occurence. Respondents are asked to circle each hassle or uplift which has

happened to them in the past month. A summary score is obtained for each scale through a simple frequency count (Kanner, et al., 1983; Lazarus, 1980).

All measures of internal consistency for each scale have exceeded .90 and test-retest reliability correlations for each have fallen between .70 and .80. Various samples have yielded different patterns of uplift and hassle themes that are logically consistent with differences in their ages and stations in life (Kanner, et al., 1983).

Mentoring. The Mentor Scale was developed from the categories of active participation delineated in the literature review. Subjects were asked to answer "yes" or "no" to 16 questions regarding the behavior of one older professional with whom they had experienced a significant relationship at some time since being in graduate school. A summary score was obtained by totalling the items for which "yes" was circled.

Strong internal consistency for the scale was indicated by a Cronbach's alpha value of .90, using data from the present sample (N = 142). Construct validity was suggested by significantly positive relationships between the Mentor Scale and Quality of Life, Positive Affect, and Uplifts, respectively, and by a significant negative relationship between the Mentor Scale and Negative Affect.

Analysis of Data

All statistical analyses were performed using standard programs from the Statistical Package for the Social Sciences (SPSS) (Nie, Hull, Jenkins, Steinbrenner, & Brent, 1975).

Relationships among the five dependent measures (Quality of Life, Positive Affect, Uplifts, Negative Affect, and Hassles) were computed with Pearson product-moment correlation coefficients with pairwise deletion. The utility of the quality of life model developed here was tested using stepwise multiple regression with Quality of Life as the criterion variable and Positive Affect, Uplifts, Negative Affect, and Hassles as predictors.

A 2 x 2 x 2 factorial analysis of variance was used to investigate predicted subgroup differences in Quality of Life, Positive Affect, Uplifts, Negative Affect, and Hassles, respectively. Main effects and interactions were examined for the factors Sex, Parental Status, and Mentor Scale Score (using a median split). When interactions were found, simple effects were assessed using *t*-tests.

The independence of occurrence of the three independent variables (sex, parental status, and level of mentoring) was assessed with a series of chi-square tests for contingency tables (Nie, et al., 1975).

Results

Relationships Among Quality of Life, Affect, and Event Measures

The Pearson *r* correlations among the dependent variables are

found in Table 1. As predicted, there were significantly positive relationships between Quality of Life and the positive measures (i.e., Positive Affect and Uplifts) and significantly negative relationships between Quality of Life and the negative measures (i.e., Negative Affect and Hassles). The predicted significantly positive relationships between the daily event measure (i.e., Uplifts and Hassles) was also obtained.

Insert Table 1 about here

Contrary to expectation, the null hypothesis of no relationship could not be accepted in regard to Positive and Negative Affect. In fact, one measure explained 30% of the variance in the other. There was also an unexpected significantly negative relationship between Hassles and Positive Affect. However, this relationship was apparently a spurious result of the strong relationship which each variable holds, respectively, with Negative Affect. The correlation between Positive Affect and Hassles, with Negative Affect partialled out, was .01 (non-significant).

Given the significant relationships between adjustment measures, between stress measures, between affective states, and between daily event measures, the need for a four-fold model of quality of life was questioned. A more parsimonious model was sought via stepwise

Table 1

Correlations Among Dependent Variables

Variable	1	2	3	4
1. Quality of Life				
2. Positive Affect	.52**			
3. Uplifts	.18*	.39**		
4. Negative Affect	-.30**	-.55**	.06	
5. Hassles	-.37**	-.29**	.36**	.54**

*$p<.05$ **$p<.001$

multiple regression in which Quality of Life was the criterion and Positive Affect, Uplifts, Negative Affect, and Hassles were the predictors. Positive Affect entered the equation first, accounting for 26% of the variance in Quality of Life, $F(1,139) = 50.12$, $p < .0001$. Hassles entered as Step 2, and increased the portion of explained variance to 31%, partial $F = 10.93$, $p < .0001$. Uplifts and Negative Affect entered the equation as Step 3 and Step 4, respectively, but did not significantly increase the amount of variance explained.

Subgroup Differences in Scores on Dependent Variables

As predicted, women scored significantly higher than men on both stress measures. The mean Negative Affect score for women was 23.73, compared to a mean score of 21.42 for men, $F(1,132) = 7.51$, $p < .007$. Women obtained a mean Hassles score of 23.65, while the mean score for men was 18.49, $F(1,132) = 7.08$, $p = .009$. Sex explained 5% of the variance in both Negative Affect and Hassles.

Contrary to expectation there were no significant differences in stress scores between parents and non-parents or between persons experiencing various levels of mentoring. The study also failed to find predicted interactions between sex and parental status and between sex and level of mentoring.

As predicted, persons scoring above the median on the Mentor

Scale obtained significantly higher scores on Quality of Life and adjustment measures than did those scoring below the median ($p = .001$ for each comparison). The high mentoring subgroup obtained a mean Quality of Life score of 214.89, while the low mentoring subgroup had an average score of only 186.76, $F(1,132) = 16.71$. Respective Positive Affect means for the two groups were 25.49 and 22.63, $F(1,132) = 14.16$; while respective Uplifts means were 43.69 and 31.88, $F(1,132) = 12.29$. The Mentor Scale explained 11% of the variance in Quality of Life, 10% of the variance in Positive Affect, and 8% of the variance in Uplifts.

Hypotheses were not made in regard to possible interactions among independent variables, but two significant interactions were obtained. In differentiating scores on Quality of Life, there was a significant interaction between sex and the Mentor Scale score, $F(1,132) = 3.93$, $p = .05$. Among males, those with high mentoring had much higher Quality of Life scores than those with low mentoring, $M_H = 224.38$, $M_L = 178.00$, $t(55) = -3.76$, $p = .0004$. Among females, the difference in Quality of Life scores between high and low mentoring groups was nonsignificant. The second significant interaction was between sex and parental status in regard to Uplifts, $F(1,132) = 5.78$, $p = .018$. Among females, those with children had more Uplifts than those without, $M_P = 47.00$, $M_{NP} = 37.58$, $t(83) = 2.02$, $p < .05$; while for males the difference was in the opposite direction,

but nonsignificant. Among parents, females had significantly more Uplifts than males, $M_F = 47.00$, $M_M = 31.70$, $t(44) = -2.52$, $p = .02$.

Relationships Among Sex, Parental Status, and Mentoring

All of the six cross-tabulations and correlations computed among the three independent variables were nonsignificant. Contrary to expectation, level of mentoring was not dependent upon sex of subject in the general sample or in regard to parents, specifically. Approximately 65% of males and females, respectively, stated that they had a mentor. Fifty-five persons of the fathers scored above the median on the Mentor Scale, compared to approximately 38% of the mothers, X^2 (4, $N = 46$) = 1.25, $p = .26$.

Discussion

Quality of Life Components

The original model of quality of life postulated that four factors, positive and negative events and positive and negative affect, were directly contributory to the quality of life assessment. In contrast, individuals in the present sample appeared to assess their life quality primarily through weighing their general level of Positive Affect against experienced Hassles. Positive Affect and Hassles together accounted for 32% of the variance in Quality of Life, and the variance explained was not increased by adding Uplifts or Negative Affect to the prediction equation. The need to include both Positive

Affect and Hassles in the Quality of Life model is supported by the fact that they are uncorrelated (with Negative Affect partialled out) and that they have different primary predictors. The strong relationships between event measures and between affect measures, respectively, argues against the need to include all four variables in the Quality of life model for graduate students.

Predicting the Quality of Life of Graduate Students

Sex emerged as the best predictor of stress for the general sample, while the Mentor Scale emerged as the best predictor of overall quality of life and of positive adjustment. Given the relationship between stress and attrition, differences in stress level by sex may constitute a de facto barrier to the career advancement of women. As Harris (1970) has stated, discrimination against women is any practice which ignores women's needs.

Failure to find the predicted differences in scores on stress measures between parents and non-parents (see Campbell et al., 1976) may be due to the fact that many students (especially women) have described the postponement of having children as a personal hardship (Katz & Hartnett, 1976). Thus, the mean scores for the non-parent group may have been raised by relatively high levels of stress among certain individuals who felt frustrated in regard to a major life goal. Future research in this area might profitably include desired

parental status as a variable.

An interaction between parental status and sex was expected, but not obtained (see Cartwright, 1978; Darley, 1976; St. John-Parsons, 1978). This finding was not consistent with data which show parenthood to be associated with higher drop-out rates for both sexes, but with a stronger relationship for women (Solmon, 1973). The present study suggests that women are no more stressed than men by the simultaneous responsibilities of parenthood and graduate school.

Expected differences in stress measures between persons with high and low mentoring were not obtained. Thus, the mentor may contribute much to the quality of graduate student lives through being a source of positive experiences, and little through alleviating negative events. A second explanation is that there is no correlation between mentoring and stress measures because mentors sometimes alleviate stress and sometimes cause it, as some of the respondents commented (cf. Levinson, 1978). Contrary to suggestions that women are more in need of mentoring (Kanter, 1977; Schmidt & Wolfe, 1980), women without mentors were no more stressed than men without mentors.

In accord with earlier findings (Gregg, 1971; Pascarella, 1980) and present hypotheses, scores on Quality of Life, Positive Affect, and Uplifts, respectively, were higher for those with high mentoring than for those with low mentoring.

However, analysis of subgroups indicated that the difference in Quality of Life by mentoring level was significant only for males. Thus, women not only have no greater need for a mentor, but are less positively benefitted when they do have one. It is unlikely that this difference in impact can be attributed to differential treatment. Alleman (1982) recently found that behavior patterns of mentors do not vary by sex of mentor or protege. Ironically, this consistency may be the problem, since mentor behavior may be biased toward the needs and values of men. Twelve of the 16 Mentor Scale items refer specifically to the career domain, while the social/relationship domain is only tangentially addressed. These facts are significant since, on the Quality of Life Scale, a larger percentage of women than men typically rate each of 6 relationship categories as "important" or "very important." A larger percentage of men than women find "work" and "developing and using your mind through learning" important or very important (Flanagan, 1979).

Among females only, parents had more Uplifts than non-parents. It appears, therefore, that although fewer differences are occurring in the treatment of men and women, differences remain in regard to their perceptions of events in their lives. While men and women are equally likely to have mentors and to have children, respectively, the mentor (as currently experienced or assessed) appears more important in the lives of men, while children remain more important

in the lives of women. These findings may reflect the well known phenomenon of lag time between external change and internalized attitudes. A more hopeful interpretation is that women are retaining their values and resisting mere assimilation into the dominant male culture.

Independence of Occurence of Sex, Parental Status, and Level of Mentoring

All cross-tabulations indicated that sex, parental status, and level of mentoring occur independently. Thus, the third set of hypotheses was not accepted. Equal access to mentors for women is contradictory to a broad spectrum of theory (Epstein, 1970; Holahan, 1979; Kanter, 1977; Schwartz & Lever, 1973; Shapiro et al., 1978) and existing data (Brodsky, 1974; Feldman, 1974). It is hoped that this discrepancy reflects changing mores in the direction of non-discrimination.

Implications for Policy and Further Research

Since direct intervention into students' quality of life is not feasible, efforts may be best directed at increasing positive affect and decreasing hassles. The results of the present study suggested that manipulation of the mentoring relationship may be helpful in regard to increasing positive aspects of life. Previous studies of mentoring have been largely retrospective in nature and focused on

linking present career success with past mentoring experiences (Burton, 1977; McNutt, 1979; Moore & Sangria, 1979; Roche, 1979). The present study indicated that the mentoring relationship is also strongly related to one's present quality of life and adjustment. Prospective studies are now needed to determine whether mentoring increases happiness and satisfaction or whether happier/more satisfied persons more often acquire mentors or perceive themselves as mentored. Repeated measurements of quality of life and adjustment and of mentoring across time (beginning with entry into graduate school) are needed to establish the actual temporal order of these variables.

Since mentoring involves a set of identifiable behaviors (cf. Alleman & Newman, 1982), it can be taught, supported, and promoted by universities. One strategy would be to include mentoring ability as a variable in recruitment efforts and in tenure and promotion decisions. Another would be to hold mentoring workshops, with a particular focus on shaping the mentoring relationship into greater concordance with the values and needs of women.

The second broad approach to intervening into the quality of life is through decreasing hassles. Future research should focus on identifying specific patterns of hassles for all students, but particularly female students, with an eye toward ameliorative programs (cf. Kjerulff & Wiggins, 1976; Topp, 1977). "An important

step in alleviating de facto discrimination against women is to make institutions more receptive to the variety of life situations of students" (Soloman, 1976, p. 29). In this regard, equitable treatment may need be sometimes unequal. Individually-specific stress levels should be considered in regard to performance expectations such as the need for part-time enrollment and the time required to complete the degree.

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